

IOWA BIRD LIFE



Vol. XL No. 2

June 1970

Published by the

IOWA ORNITHOLOGISTS' UNION

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The Iowa Ornithologists' Union was organized at Ames, Iowa, February 28, 1923, for the study and protection of native birds and to promote fraternal relations among Iowa bird students.

The central design of the Union's official seal is the Eastern Goldfinch, designated State Bird of Iowa in 1933.

Publication of the Union: Mimeographed letters, 1923-1928; THE BULLETIN 1929-1930; IOWA BIRD LIFE beginning 1931.

SUBSCRIPTION RATE: \$4.00 a year, single copies \$1.00 each except where supply is limited to five or fewer copies, \$1.25. Subscriptions to the magazine is included in all paid memberships, of which there are five classes as follows: Life Member, \$100.00, payable in four equal installments; Contributing Member, \$10.00 a year; Supporting Member, \$5.00 a year; Regular Member, \$4.00 a year; Junior Member (under 16 years of age), \$1.00 a year.

 EDITORIAL AND PUBLICATION OFFICE

235 McCLELLAN BLVD.
 DAVENPORT, IOWA 52803

Published quarterly by the Iowa Ornithologists' Union at 235 McClellan Blvd., Davenport, Iowa, 52803. Second class postage paid at Davenport, Iowa. Subscription \$4.00, single copies \$1.00.

Some Aspects of the Population Ecology of Downy Woodpeckers in Relation to a Feeding Station

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One effect of a sustained *ad libitum* of food source (e.g., a bird feeder which is always supplied with bird food) may be an increase in and sustaining of a population larger than the carrying capacity of the environment could normally support. While the supralimital population of a species using such a food source is artificial, the study of a species under such conditions presumably could reveal some of the social intricacies of the species that are difficult to study under natural conditions. The purpose of this paper is to describe the use of a feeding station by a population of Downy Woodpeckers (*Dendrocopos pubescens*) and to relate such observations to our current knowledge of the ecology of this species.

STUDY AREA

Mrs. Audrey Niemann of Burlington, Des Moines Co., Iowa, has, for several years, maintained suet and seed feeders in the back yard of her suburban home. The suet feeders in her yard provided the artificial food source for this study as well as a convenient place for netting birds and observing the actions and interactions of marked individuals. The Niemann home is surrounded by urban residential areas on the east, south, and west, and by second growth oak-hickory-elm woods on the north. This wooded area extends about $\frac{1}{4}$ mile to the north and is continuous with a wooded area along Flint Creek, a permanent stream located about 1 mile north of the Niemann residence. The terrain of the wooded area is quite hilly and there are a few ephemeral streams which flow into Flint Creek. Figure 1 indicates the spatial arrangements of the buildings, woods, feeders, and mist nets. Suet feeder A is an 8 inch long cylindrical feeder that allows access to the suet from all sides. A dowel extends through the bottom of the feeder and provides a perch on 2 sides. This feeder is suspended from a small limb ($\frac{1}{2}$ inch diameter) of an ornamental apricot tree and is not accessible to birds perched on adjacent limbs. This feeder is almost always filled with suet and was the primary site of capture and recapture of the woodpeckers. Feeder B is the same type of feeder and is hung in a similar manner from a 30 foot Locust tree. This feeder belongs to a neighbor and frequently is not supplied with suet. Feeder C is a wire basket attached to a board on a pole adjacent to the garage. This feeder is generally filled, but not as consistently as feeder A. Numbers 1, 2, and 3 indicate the positioning of the mist nets. Net 3 was rarely used.

METHODS

Mist nets (12 meter) were used to capture birds coming to suet feeders during the daylight hours of 20 days between 22 November 1967 and 26 December 1969.

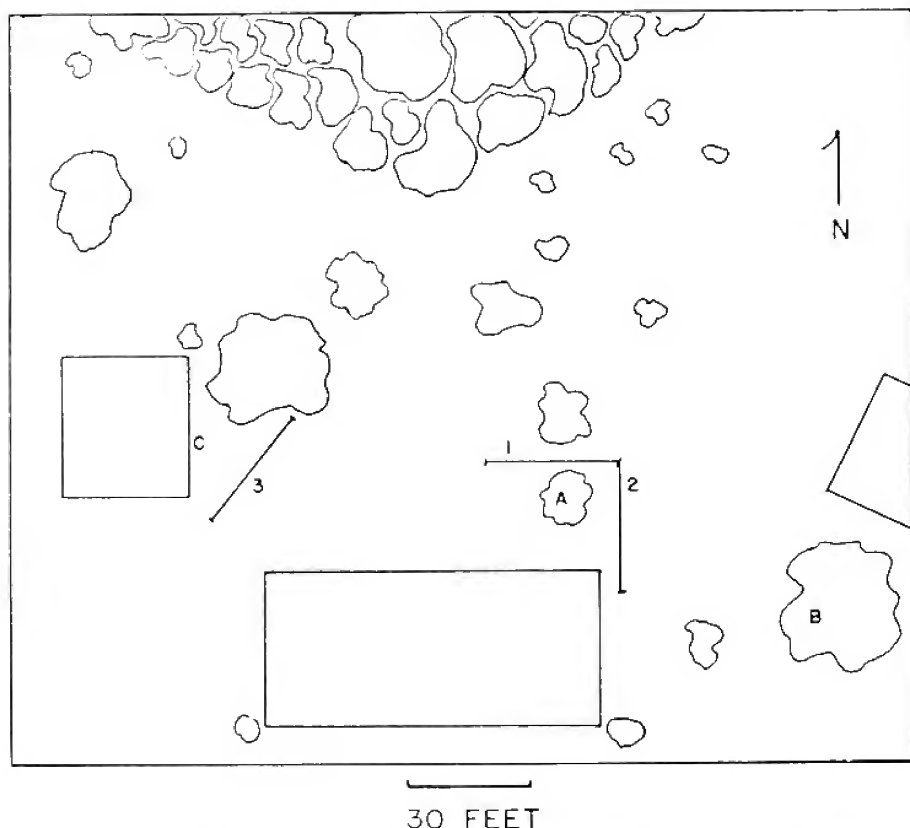


FIGURE 1. The study area at the Niemann residence in Burlington, Iowa. The letters a, b, and c refer to suet feeder locations. The numbers 1, 2, and 3 refer to mist net locations.

During this time period 44 Downy Woodpeckers were captured and banded with U. S. Fish and Wildlife Service aluminum bands and unique combinations of colored celluloid bands. Observations of birds at and around the suet feeders were recorded on an unscheduled basis by myself and by Mrs. Niemann. Each time a Downy was seen at a suet feeder the following information was recorded: sex; banded or unbanded; and, if banded, the colors and positioning of celluloid bands. Interactions between Downy Woodpeckers, and between Downy Woodpeckers and other species of birds were also recorded. Because the color-banding scheme used involved putting bands on either or both legs, it was often not possible to identify individuals when only one leg could be seen; thus, many observations were recorded as "banded bird but not identified" or as "banding status unknown". As a result of the color-banding scheme used, the observations of identifiable individuals are biased toward those individuals wearing a band of a color that was not used in any other combination of colors on other birds of the same sex. The same color-banding system was used for each sex, thus bias regarding the identification of individuals should be the same to the extent that an equal number of individuals of each sex were marked.

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A chi-square (χ^2) test (Sokal and Rohlf, 1969: 553) was used to compare frequency data.

RESULTS

COMPARISON OF SEX FREQUENCIES

The results of our observations are summarized in Table 1. Of the 44 Downy Woodpeckers captured during this study, 16 were males (14 adults, 2 immature) and 28 were females (21 adults, 7 immature). When this sex ratio is tested against an expected 1:1 sex ratio, the χ^2 value suggests that the difference in frequency of capture of males and females approaches significance. When the total number of captures and recaptures of the sexes are compared, we find that males were caught significantly less often than females. Comparison of the frequencies of observation of identifiable individuals on the other hand indicates that individual males were seen significantly more often than individual females. Comparison of the frequencies of unbanded individuals indicates that there were significantly more observations of unbanded females than of unbanded males. Finally, when all observations are considered, irrespective of band status, females were seen significantly more often than males.

	Males	Females	χ^2 (H_0 : males=females)
1. Total number of birds captured	16	28	3.3 NS ($P \leq 1$)
2. Total number of captures and recaptures	27	47	5.4 *
3. Mean number of recaptures per banded bird	.69	.68	
4. Total number of sightings of identifiable individuals	159	119	5.8 *
5. Mean number of sightings per banded bird	9.93	4.25	
6. Total unbanded birds observed	10	36	14.7 ***
7. Total birds observed of uncertain band status	157	212	8.1 **
8. Total number of observations (2 + 4 + 6 + 7)	353	414	4.9 *

* $P \leq .05$

** $P \leq .01$

*** $P \leq .001$

TABLE 1. Summary of the captures, recaptures, and observations of Downy Woodpeckers visiting the feeding station.

POPULATION SIZE

A minimum estimate of the size of the population of unbanded Downy Woodpeckers using this feeding station during the two years of study can be obtained by dividing the total number of unbanded birds observed by the mean number of sightings per banded bird. This assumes that unbanded birds are, on the average,

using the feeding station as often as the banded birds. These calculations indicate that 1 unbanded male and 8 or 9 unbanded females were using the station. Thus, a minimum estimates of the total population of Downy Woodpeckers using the station would be 53 or 54 individuals (17 males; 36 or 37 females). The large number of birds of uncertain band status almost certainly indicates that the population was even larger.

TEMPORAL CONSIDERATIONS

Since no effort was made to make observations on a scheduled basis, an examination of the temporal aspects of feeding station use by Downy Woodpeckers must be limited. On an annual basis, seasonal variation in the use of the suet feeders is suggested in Table 2 by the variation in the frequency of birds captured per net hour. The data suggest that greatest use of the feeding station occurs during May. Minimum use of the station by adults is indicated to occur during June, July, and August. Immature birds make moderate use of the feeding station during the summer. On several occasions we have seen adult Downy Woodpeckers with immature birds at the feeder; the adults feed the youngsters suet and, by their example, seem to "teach" them how to get it for themselves.

When all observations are summarized as frequency per sex per month, comparison of the sexes for each month by a chi square test for the null hypothesis (frequency of males=frequency of females) indicates that there are no seasonal differences between the sexes in the use of the feeding station.

A temporal pattern in the daily use of the suet feeders can be inferred from an examination of the times at which observations were made and birds netted. Comparison of the frequency of use by the sexes at hourly intervals indicates that the pattern of use is similar for the sexes. Finally, the set of times at which captures and recaptures were made suggests that feeding station use is greatest in the early afternoon (1-3 P.M.) and least in the early morning and late afternoon.

Month	No. birds netted	Estimated net hours	No. birds/ net hours
April	7	32	.219
May	7	16	.438
June	4	48	.084
July	5	32	.157
(adult	1	32	.031)
(imature	4	32	.125)
August	6	32	.188
(adult	0	32	.000)
(imature	6	32	.188)
November	33	144	.229
(1967	7	48	.146)
(1968	11	48	.229)
(1969	15	48	.313)
December	12	80	.150
(1967	8	48	.167)
(1969	4	32	.125)

TABLE 2. Summary (by month) of the birds netted at the feeding station expressed as the number of birds captured per net hour (net hours the number of nets in use X the number of hours they are used).

INTERACTIONS OF DOWNY WOODPECKERS
AND DOWNIES WITH OTHER SPECIES

Table 3 summarizes the interactions of Downy Woodpeckers and other birds. Most interactions were with other Downy Woodpeckers, and these generally between individuals of the same sex. When intersexual agonistic interactions were observed the male was generally dominant over the female. The second greatest competitor at the suet feeders was the European Starling (*Sturnus vulgaris*), to which the Downy was always subordinate. Of the other species seen interacting with downies, most were dominant over them. These included: the Yellow-shafted Flicker (*Colaptes auratus*); Red-bellied Woodpecker (*Centurus carolinus*); Blue Jay (*Cyanocitta cristata*); White-breasted Nuthatch (*Sitta carolinensis*); House Sparrow (*Passer domesticus*); and Common Grackle (*Quiscalus quiscula*). Only 2 species were subordinate to downies: the Black-capped Chickadee (*Parus atricapillus*), and the Catbird (*Dumetella carolinensis*). It is of interest that downies were observed feeding on suet feeder A simultaneously with Black-capped Chickadees - at times within 2-3 inches of one another; at other times a Downy would actively displace a chickadee. Starlings, Grackles, Blue Jays, and House Sparrows generally often depended on the downies to get suet from the feeder for them. Normally these species feed on the crumbs dropped below the feeder, but occasionally a downy would be chased until it dropped the suet it had gotten from the feeder.

Opponent Bird	Action of Downy Woodpecker												None*	
	Threatened		Threatened by		Displaced		Displaced by		Chased		Chased by			
	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀
Downy Woodpecker ♀ **		2			6	8	1	8		1		1		
Downy Woodpecker ♂ **				2	1	1	1	6						
Yellow-shafted Flicker								1						
Red-bellied Woodpecker				1										
Blue Jay				1			2					1		
Black-capped Chickadee					1	1							1	1
White-breasted Nuthatch							2							
Catbird						1								
European Starling		1		2	1		3	6				1		
House Sparrow													1	
Common Grackle														1

* another individual was within 6 inches of the Downy and causing the Downy no apparent "concern".
 ** reciprocal actions are included here.

TABLE 3. Summary of the interactions of Downy Woodpeckers and of Downy Woodpeckers and other species of birds.

DISCUSSION

Population size, seasonal movements, and territoriality.

That the population of Downy Woodpeckers using this feeding station is denser than normal can only be suggested, since territory size has not been examined. However, the magnitude of the population can be appreciated when data from other studies are examined. Staebler (1949) banded 72 Downy Woodpeckers on the 1268 acre George Reserve near Ann Arbor, Michigan, over an 8 year period. Lawrence (1967) banded 60 downies in 7 years at Pimisi Bay, Ontario. Both Staebler and Lawrence used suet feeders to attract woodpeckers to traps which were dispersed through the study area. Neither author estimated the density of the population of Downy Woodpeckers on the respective study areas. Graber and Graber (1963: 454-455) estimate the density of Downy Woodpeckers in Illinois to be from 5 to 15 birds per 100 acres in shrubby areas and from 4 to 11 birds per 100 acres in forested areas.

The greater number of captures, recaptures, and total observations of females at the suet feeders and the greater number of sightings of identifiable males than females suggests that there are fewer males using the feeders, but that individual males are using it more frequently than individual females. Differential niche use by the sexes of Downy Woodpeckers (Jackson, 1970) may extend to the artificial situation provided by a bird feeder, but I believe that differential territoriality and differential seasonal movement of the sexes can account for this phenomenon without having to assume preferential differences of the sexes for suet or a deviation from a 1:1 sex ratio in the population.

Staebler (1949: 42-47) observed that male Downy Woodpeckers remain on the same area year round, whereas female downies maintain a different wintering area, then move onto the territory of a male for nesting. A seasonal shift of females has also been observed by Lawrence (1967: 28) among the Downy Woodpeckers at Pimisi Bay, Ontario: "the females were more prone to migrate than were males." The data presented here are supported by these observations to the extent that a greater seasonal movement of females results in more individual females being in the vicinity of the feeding station during a years' time. When considered on an annual basis, the use of the feeders by individual "resident" males would be expected to be greater than that by the more "transient" females, though at any given time the males and females using the feeder may be visiting it with equal frequency. The total number of observations of males and females, however, indicate that the feeding station is used more frequently by females than by males.

Kilham (1962) indicates that both male and female Downy Woodpeckers are territorial, territories being defended only against members of the same sex. Seasonal variation in the intensity of territoriality is obvious (Kilham, 1962; pers. observation), the period of least territoriality being in the fall. Increased territoriality is coincident with the upsurge of reproductive activities beginning in January or February.

Few territorial species feed primarily on their territories (Lack, 1966: 287) and it is obvious that the feeding station used in this study cannot be within the defended territory of each individual using it. This feeding station may be looked upon as a neutral area outside the territory of, but used by, several Downy Woodpeckers. The size of the population of downies (or of any species) using any feeding station might be expected to be limited by several factors. Of greatest concern are: the "Palatability", quantity, availability, and energetic value of the food; the distribution and abundance of suitable breeding sites and prospective mates; the distance a bird needs to travel to reach the feeding station and the

energetic demands of traversing this distance. An important factor to consider in this latter point is the territorial imperative of the species and the number of "foreign" territories an individual must cross to reach the food source. If the territorial imperative is great enough it may be energetically inefficient or physically or psychologically impossible for some individuals to use the food source because of barrier territories. In this regard, if one sex of a species is more territorial than the other it might be expected that fewer individuals of the more territorial sex could use the food source. On the basis of the data presented here, one would predict that among Downy Woodpeckers, males are more territorial than females. Personal observations indicate that this is probably true.

It might also be predicted that a feeding station adjacent to suitable habitat for a species, but in what would normally be an unfrequented area, might be used by more individuals of the species than a feeding station placed within suitable habitat for the species; the feeder in the latter case is more likely to be within or isolated by the defended territory of one or two individuals. Neutral corridors (such as large open areas in the case of forest birds) might be expected to facilitate the use of a feeding station by more individuals of a species. Thus, it remains a possibility that the large number of individual Downy Woodpeckers using this feeding station may be due more to the physical location of the station than to a concentration of downies around the station.

Coorelation of feeding station use with the annual cycle of Downy Woodpeckers

The occurrence of increased feeding station use during late spring is coincident with the latter part of the nesting season of Downy Woodpeckers in Iowa (personal observation), a time when energetic demands for the adults that are feeding young are likely to be acute. By mid-June most young have fledged and insect populations are large and increasing. This decrease in the energy demands on the adults coupled with an increased natural food supply could predictably result in the observed decrease in feeding station use by the adults. Feeding station use by immature birds is commensurate with their inexperience at foraging as woodpeckers normally forage. In many species of birds the greatest mortality occurs among the newly fledged young (Lack, 1954: 83) presumably to some extent due to starvation. To the extent that this is true for Downy Woodpeckers, this may be a larger than normal population because the feeding station allows the survival of young that would not survive under more natural conditions.

Correlation of interactions at the feeding station with the behavior of Downy Woodpeckers under natural conditions

The observations in this study that, in feeding situations, female downies are generally subordinate to males, are supported by the field observations of Kilham (1962), though Sinott (1901) observed dominance of a female downy over a male at a bird feeder. Thus, while male dominance tends to be more common, an occasional dominant female is to be expected. It may be that proximity to "home" territory influences the dominance-subordination relationships between the sexes in the same manner as in intrasex encounters.

It seems likely that to some extent the dominance-subordination relationships between Downy Woodpeckers and other species are a function of the size of the interacting species. The downy might be expected to be subordinate to the larger species. In more natural situations encounters between Downy Woodpeckers and many of these species are probably rare, but presumably could be similar to the

interactions at the feeding station. Starlings, Grackles, and Blue Jays, for example, are noted for their ability to "steal" food from other birds. If it were not for differences between the optimum habitat of Downy Woodpeckers and that of House Sparrows, the latter might be a strong competitor for the nest hole of downies. The Starling is already known for its ability to evict other species of woodpeckers from their nests - fortunately the Starling is generally too large to enter the nest holes of downies. The apparent greater degree of tolerance between Downy Woodpeckers and Black-capped Chickadees than between downies and other species is worthy of note since these two species are often seen together in winter foraging flocks. Presumably their association in such flocks is of adaptive advantage either in finding food or in avoiding potential predators, and the mutual tolerance has carried over to the artificial situation found at a feeding station.

SUMMARY

Forty-four Downy Woodpeckers (16 males; 28 females) have been uniquely marked at a feeding station in Des Moines County, Iowa, over a 2 year period. Observations at the feeding station suggest that more individual females use the station but that individual males use it more often. Use of the station has been correlated with energy demands and availability of natural food and with differential seasonal movements and territoriality of the sexes. Interactions among Downy Woodpeckers and between downies and other species of birds are described: female downies are generally subordinate to males; downies are usually subordinate to larger birds; mutual tolerance between Downy Woodpeckers and Black-capped Chickadees may be related to association of the species in winter foraging flocks.

ACKNOWLEDGMENTS

I am deeply indebted to Mrs. Audrey Niemann who maintains this feeding station and keeps careful records of the birds visiting it. A good share of the data presented here were recorded by Mrs. Niemann and the study would not have been possible without her assistance.

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Bellicose Curiosity

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Army ants!

The VW came to an abrupt halt. Phalanxes of small black ants teemed across the dirt road and disappeared into the low brush at the jungle's edge. Dennis Sheets, our good friend and host while Peter and I were in Brazil, had explained that the Fringed-backed Fire-eye followed the army ants. This rare bird eats insects which move out of the path of the ants. He had told us that if we could find army ants in the jungles where the bird is found, we would have no difficulty adding the bird to our life lists.

We were in the rain forest near Alagoinhas; one of two patches of coastal jungle in which the Fringed-backed Fire-eye can be found. Coastal jungle is becoming spotty in the state of Bahia, falling victim to the ever increasing human population. With the encroachment of man, cutting and burning the rain forest, the fire-eye's habitat is fast diminishing; which results in the increasing scarceness of the bird.

Dennis pulled the car off the road a few yards from the ants, he and Peter grabbed their machetes and began looking for suitable young saplings to be used for net poles. Soon they were hurriedly erecting two mist nets. It was quite a sight; the jumping and stomping of feet while maneuvering to erect the nets. Within fifteen minutes of the discovery of the ants the first unsuspecting fire-eye, a female, flew into the net. It was immediately removed from the net photographed and released.



Male Fringe-backed Fire-eye showing protective coloration.

Photo by Dennis Sheets

During the flurry of all this activity, I was leaning against the VW thankful for the respite. I had had about all the jungle walking I wanted for the day. A large insect whizzed by me head and into the brush. I had the impression of a large rusty bumblebee. My contemplation of the insect was interrupted and consequently forgotten due to the capture of a beautiful male fire-eye which was photographed and released (see photo). I was again leaning against the car watching the removal of birds from the net. The insect flew by me making two passes, then darted into the brush. I realized that this insect was a bird. On the next pass over the road the bird went through the net. This time it hovered over the road, next it hovered by the net, next by the car. All of us got a good look at the Reddish Hermit. His curiosity was aroused and he did not lack for courage. He was obviously disturbed by our presence. He hovered around the area observing our activities closely. Probably the distress cries of the birds as they were taken from the net attracted the tiny hummingbird and he was intent in his investigations.

The Reddish Hermit is a delightful little hummingbird. He is a very small rufous bird with upperparts a coppery-bronze, lower back and upper tailcoverts chestnut, tail feathers bronze tipped with rufous. As with all hermits, he has a two-toned bill. He is a less than thumb-sized package of bellicose curiosity, demanding to know all that invades his territory. A unique and a most memorable addition to our life lists.

The Secret and Tragedy

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I remember hearing my father tell about the "butcher birds" nesting in the osage orange hedges, which were used before barb wire fences to enclose pastures, as the thorns provided a place for hanging their prey -- even small birds. I was horrified! However, I was privileged to study a pair closely in the nineteen thirties while teaching at Little Head, a standard rural school.

I saw these Loggerhead Shrikes first in late April away some distance perched on a telephone pole. Then one evening when I came outside to dust erasers on the porch I scared one when jerking dried tufts of weeds from the hard path tramped by the children around the schoolhouse. After that I watched for these shrikes and followed their low rapid bounding flight in a straight line to the brushy strip at the back of the school yard. There they would rise as if climbing an invisible ladder, where about six feet from the ground they were building a nest in a thicket of wild plum trees almost impenetrable from all sides but one, where the pupils had a narrow path through it.

The shrikes were a few days building the nest making many trips after 4:00 P.M. carrying pieces of old corn stalks from the newly sown oat field, weed stems, coarse grass, roots, paper, and wool clinging to the bottom wire of the barb wire fence where some sheep had reached under it. It was a large carelessly constructed structure well-lined with barred rock chicken feathers which were to bring a tragic end to their happiness. In this the female shrike laid five eggs grayish or creamy-white thickly and evenly spotted and blotched with dull brown and lavender. I took my chair out for the children to stand on to see the surprise-

secret. The Loggerhead Shrikes began the job of incubating the eggs. The birds make a great outcry when one disturbs the nest, and will pop the bill in a manner that suggests the grinding of teeth in a rage. However, we didn't make them have to do this as we looked at each in their turn skulked down in the warm nest from not too close-up.

It was impossible to tell the pair apart as both sex look alike. Their length is nine inches, have strongly hooked bills; rather short, rounded wings; the tail is longer, and rounded, graduated or nearly even, but never forked; the plumage is soft, blended, the head never crested, though the feathers of the crown are sometimes rather longer than usual, the plumage is never brilliant colors predominating, but sober black, grays, browns and white. The adults' colors: -- above, plain slate-gray, darkest on the crown, fading gradually into paler gray on upper tail coverts and into white on outermost shoulder region; eye region, ear region and lores black, forming a conspicuous longitudinal patch on sides of head; wings and tail black; secondaries tipped with white; entire under parts, including cheek region white; the sides and flanks faintly shaded with gray; iris, brown; bill, legs and feet black. The young always have the plumage barred or transversely streaked.

Shrikes are known as song birds of prey. Their ordinary notes are harsh often grating, but our Loggerhead Shrikes as well as the Northern or Gray Shrikes -- the only two species of shrikes -- are both capable of producing a variety of sounds, in some closely near to a song; thought by some to be practiced for the purpose of enticing small birds within their reach. The shrikes are peculiar in another of their habits of impaling insects, and small mammals as well as small birds on thorns, splinters and in the crotches of trees in order to hold them when tearing them to pieces with their bills as shrikes do not have feet powerful enough to hold their prey. These shrikes practiced this seeming cruelty. We found grasshoppers, frogs, and a meadow mouse on thorns by the nest -- the game of their hunting in a nearby swampy pasture. If it is hungry it eats small insects right away, impaling only the large ones. All-in-all I believe that shrikes do more good than harm.

When resting their favorite position is the summit of an isolated small tree, stakes, a telegraph or telephone pole or wire or some other prominent perch from which they command a wide view in all directions and then pursues an undulating flight a few feet from the surface of the ground searching with their keen eyes for prey on their way to another perch. The shrike dives with closed wings followed by a fluttering upward flight. We found disgorged pellets on the ground beneath the nest after the manner of owls and hawks. These were undigested parts of bones inside the pellets and the fur, feathers, or scale from the outside of their victims. All seemed to be going well.

As both male and female shrikes incubate, they had been undoubtedly taking 'turns' sitting on the eggs about a week when we found one of them dead on the nest on a Monday morning early in June after a cold rainy Sunday afternoon. Upon examination, we found that chicken mites hatched from the nits on the feathers of the nest lining had killed it. We put it in a match box coffin and buried it in the soft earth near their nest. We took the eggs for our collection of nature specimens. Alas! during the heat of summer these eggs EXPLODED because we didn't bother to blow out their inside.

The mate stayed around a few days looking very lonely and grief-stricken; however, before the week was gone one of the pupils saw it along the highway. It was moving westward no doubt to the hawthorn trees along Otter Creek; although the shrike is solitary, where it hoped to find a new mate soon and happiness again.

CONVENTION



ROBERT L. NICKOLSON

Retiring President

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SIOUX CITY, IOWA

Members of the Iowa Ornithologists' Union met at Iowa Wesleyan College, Mount Pleasant, Iowa on May 15, 16 and 17, 1970 for the 48th annual spring convention. Hosts were the Burlington Bird Club and Iowa Wesleyan College - Beta Beta Beta Biological Honorary Society and Dr. R. William Poulter, Chairman.

At 7:00 P.M. on Friday, May 15, an informal reception was held in the beautiful International Room of the college library. Two papers were presented during the evening. The first was *Modern Optics and the Naturalist*, given by Henry W. Louis of Iowa City. Optical principles of basic image formation as related to prism binoculars were shown using color slides. Mr. Louis exhibited eight pair of binoculars ranging in price from \$30 to \$300. Aspects of design and construction of these instruments were pointed out. Binoculars in the \$75 to \$150 price range were mentioned as yielding long term value because of conventional design and excellent mechanical and optical properties. Mr. Louis is Vice President of Henry Louis, Inc., Iowa City, a supplier of photographic and scientific instruments.

The second paper was *Nest Site Behavior Studies of Two Species of Woodpeckers* by Jerome D. Jackson, PhD, who is on the staff of the Museum of Natural History at the University of Kansas, Lawrence, Kansas. Nesting cavity studies of Red-headed and Red-bellied Woodpeckers were presented in 35mm slides and 8mm color motion pictures made by Dr. Jackson. The films revealed target structures on the mandibular and oral areas of the nestlings which aid the parent birds in feeding the young. Also shown were the nestlings presenting themselves for feeding whenever light intensity in the nest cavity suddenly decreased. Usually this occurred when the parent's head blocked the entrance hole and darkened the cavity. Members enjoyed cookies and coffee while observing the fine ornithological and natural history book display brought by Mr. and Mrs. Fred Pierce and Mrs. Paul Pierce of the Pierce Book Company, Winthrop, Iowa.

On Saturday morning, May 17 registration began at 9:00 at the Adam Trieschmann Hall of Science. Dr. Donald Ziegler, Vice President of Academic Affairs at Iowa Wesleyan gave the welcome followed by a response from Robert L. Nickolson, President of the I.O.U. Dr. R. William Poulter gave an *Introduction to the Mount Pleasant Area* which included natural and topographic features of interest to birders. Peter C. Petersen, Jr., Davenport, Iowa presented his paper, *Birds of Bahia, Brazil*. He described the natural history of the state of Bahia in eastern Brazil with emphasis on bird life and habitat. Slides of native species ranging in size from Hummingbirds to Rheas were shown. Vegetation and habitat ranged from tropical coastal areas to semi-desert. During the Petersens' trip in July and August, 1969, they observed 245 species of birds in Bahia and added three species to the Bahia list: the White-collared Swift, the House Sparrow and the Red-billed Pied Tanager. Mr. Petersen is a dedicated amateur ornithologist and he has

edited *Iowa Bird Life* since 1961.

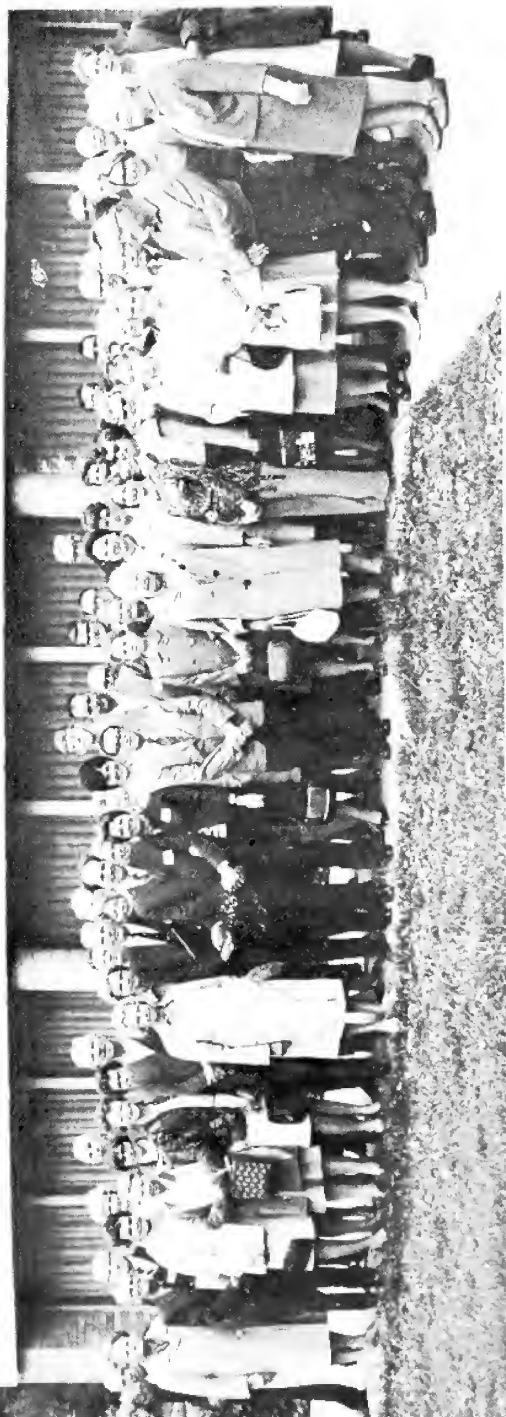
The next paper was presented by Mrs. Gladys Black of Pleasantville, **Red Rock, A New Birding Area for Central Iowans**. Part of a network of flood control projects in Iowa, Red Rock Lake has brought numbers of waterfowl to the previously upland prairie area around Knoxville in central Iowa. Mrs. Black showed slides of the area before and after completion of the dam, the resultant temporary and permanent lake, and described changes in regularly occurring birds of the area. Mrs. Black, an amateur ornithologist, is compiling the initial bird observation records for the area and she discussed her current studies of migratory roosting Turkey Vultures. A 16mm sound color motion picture, **Birds in New Zealand**, was shown next by I.O.U. Vice President, Joseph K. Brown. This film was made in 1965 by Drs. H. Lewis Batts, Jr. and Olin Sewall Pettingill, and showed bird species native and introduced to the New Zealand Islands. It has been released in 1970 for distribution by the Kalamazoo Michigan Nature Center where Dr. Batts is director. After lunch at noon at the Student Union the group photograph was taken.

Saturday afternoon programs convened at the Adam Trieschmann Hall of Science at 1:15 with a paper entitled **Southern Wildlife** presented by James Rod of Ames. This was a pictorial report, using 35mm color transparencies, of a camping trip made by James and Douglas Rod through southeastern and southern coastal states and wildlife refuges. Views of insects, reptiles, birds and mammals were shown, as well as slides having botanical and ecologic interest. Scenic photographs of Mexican countryside concluded the presentation which was narrated by Jim Rod and accompanied by a tape recorded musical track. James Rod attends Boone Junior College and Douglas Rod is serving now in the Armed Forces. At 2:00 John Faaborg of Ames presented a paper, **Bird Species Diversity on Islands of Swan Lake, Manitoba**. The National Science Foundation provided funds for the author's study of species diversity as it is related to habitat variation on five small islands of a glacial lake. The concept of bird species diversity and its use in statistical evaluation of study results was discussed. John is currently an undergraduate student at Iowa State University. The slides which he showed were made during his study project which took place during the summer and early autumn of 1969.

A brief business meeting was held at 3:00. President Robert Nickolson called the meeting to order. Due to the resignation of Mrs. M. K. Hallberg as secretary, Mrs. Charles C. Ayres, Jr. was appointed secretary pro tem. Mrs. Ayres read the minutes of the May 17, 1969 meeting. They were approved as read. Treasurer, Woodward H. Brown, gave the financial report which was accepted as read. President Nickolson then appointed Dr. Myrle Burk as Chairman of the Nominating Committee with Dr. Robert Vane and Miss Lillian Serbousek on this committee. Mr. and Mrs. Jack McLane and Mrs. Jane Fuller were appointed as the resolution committee; and Mrs. Russell Nicholson and Mrs. Charles C. Ayres, Jr. as the auditing committee. There being no further business, the meeting was adjourned until evening.

At 6:30 Saturday evening the annual banquet was served in the West Dining Room of the Iowa Wesleyan Student Union. Following an excellent meal President Nickolson turned the meeting over to Vice President Joseph Brown for a special presentation to a charter member who has given many years of service to I.O.U. Dr. Robert Vane read and presented to Fred Pierce of Winthrop a citation honoring him for his long time editorship of *Iowa Bird Life* and service to our organization. Two color prints of Fred Kent's photographs were also presented to Fred Pierce as a small token of our appreciation.

ADAM TRIESCHMANN
HALL OF SCIENCE



Members at 48th Annual Convention, Mt. Pleasant

Photo by Joseph Brown

Milton W. Weller, PhD, Iowa State University, Ames, presented the banquet program, **Birds of the Polar Regions**. Field trips by Dr. Weller to Alaska, the MacKenzie River area and to the Antarctica were combined to give an overview of birdlife and the ecology of cold lands and waters. The impact of the industrial and military man was evident in both polar areas, and the author pointed out implications of current oil exploitation of the Alaska coast, the fragility of the tundra ecosystem and the potential permanent destruction of prime nesting areas for many thousands of seabirds and waterfowl. Dr. Weller is supervising graduate students doing field studies on Antarctic Penguins. He showed slides of the Adelie and Emperor Penguins and explained how these unique birds adapt to a hostile climate and how they withstand long fasting periods in order to rear their young successfully. Dr. Weller is Professor of Wildlife Biology, Department of Zoology and Entomology at Iowa State University. His program was most outstanding.

Breakfast was served Sunday morning, May 17, at 5:15 at the Student Union. Four field trips were taken from 6:00 to noon: one to the Alice Savage farm and woods southwest of Mount Pleasant, one to the Jack McLane farm and Geode Park southeast of Mount Pleasant, one to view Harrison Moore's Bluebird houses south of Mount Pleasant and the fourth to Leopold's Wood Duck area at Burlington.

Luncheon was served at noon followed by the final business meeting at the Student Union. President Nickolson called the meeting to order. Jack McLane, chairman of the resolutions committee, reported. His report included thanks to all who presented papers at the convention, to Dr. Milton W. Weller for his banquet program, to our hosts - The Burlington Bird Club and Iowa Wesleyan College and especially to Dr. R. William Poulter and the officers of I.O.U. for all their work in preparing for this meeting. Also thanks were expressed to Fred Pierce for his book display. Mrs. Russell Nicholson, chairman of the auditing committee, reported the I.O.U. books to be in good order. Dr. Myrle Burk, chairman of the nominating committee reported the following slate of officers for I.O.U.: President - Beryl Layton of Cedar Rapids, Vice President - John Faaborg of Ames, Secretary - Miss Pearle Walker of Ottumwa, Treasurer - Woodward H. Brown of Des Moines. Executive Council members: Robert L. Nickolson of Sioux City, Keith Layton of Oskaloosa, Mrs. Charles C. Ayres, Jr. of Ottumwa and Mrs. Russel Nicholson of Des Moines. They were elected by unanimous ballot cast by the Secretary upon motion of the voting members. Dr. Robert Vane invited the I.O.U. to meet at Cedar Rapids in May of 1971.

ATTENDANCE REGISTER

OUT OF STATE: EVANSTON, ILLINOIS: Margaret R. Murley.

LAWRENCE, KANSAS: Dr. and Mrs. Jerome D. Jackson.

AMES: Mr. and Mrs. John Faaborg and son, James Rod, Dr. and Mrs. Milton W. Weller.

BURLINGTON: Lowell Fuller, Mrs. O. Lowther, Mr. and Mrs. Jack McLane, Mr. and Mrs. Paul Niemann.

CEDAR RAPIDS: Dr. Karl E. Goellner, Mr. and Mrs. Beryl Layton and family, Mrs. Sara Millikin, Miss Lillian Serbousek, Dr. and Mrs. Robert Vane.

CORALVILLE: Miss Clara A. Emlen.

DAVENPORT: Mr. and Mrs. Peter C. Petersen.

DES MOINES: Mr. and Mrs. Stanley Atherton, Mrs. A. J. Binsfeld, Mr. and Mrs. Joseph K. Brown, Mr. and Mrs. Woodward H. Brown, Mr. and Mrs. Richard C. Mooney, Mrs. Russell Nicholson.

FAIRFIELD: Viola Hayward.

FORD DODGE: Susan H. Atwell.

INDIANOLA: Ann Moore.

IOWA CITY: Edna Flesner, Irene Flesner, Mr. and Mrs. Fred W. Kent, Henry W. Louis.

KEOKUK: Mr. and Mrs. Herbert Prince.

KEOSAUQUA: Dr. Warren N. Keck (Life Member of I.O.U.).

LAMONI: Mr. and Mrs. Ralph E. Silver.

MARION: Mrs. Lucile Liljedahl.

MARSHALLTOWN: Dorothy Brunner, Mr. and Mrs. Clifford Glasgow.

MOUNT PLEASANT: George Crane, Mrs. Edna Crouse, Dolores Graf, Harrison Moore, Roy Ollivier, Mrs. Jerry Osier, Dr. and Mrs. R. William Poulter.

OSKALOOSA: Mr. and Mrs. Keith Layton.

OTTUMWA: Judge and Mrs. Charles C. Ayres, Jr., Miss Beulah Miksch, Miss Pearle C. Walker.

PLEASANTVILLE: Mrs. Gladys B. Black.

SIOUX CITY: Mrs. W. W. Barrett, Mr. and Mrs. Paul B. Davison, Mr. and Mrs. Darrell M. Hanna, Mr. and Mrs. Robert L. Nickolson.

WATERLOO: Dr. Myrle Burk, Mrs. Ruth Halliday, Margaret M. Nagel, Mr. and Mrs. John Osness.

WASHINGTON: Mr. and Mrs. Russell J. Prescott.

WINTHROP: Mr. and Mrs. Fred Pierce, Mrs. Paul Pierce.

Total attendance registered: 85.

The compilation followed the business meeting on Sunday afternoon under Judge Charles Ayers conduction. One hundred eleven species were recorded including the Chuck-will's-widow, a first for the I.O.U. compilation. The bird was observed by Judge and Mrs. Ayres Sunday morning near Ottumwa.

The following birds were seen on the Sunday field trip: Pied-billed Grebe, Great Blue Heron, Green Heron, Mallard, Wood Duck, Turkey Vulture, Sharp-shinned Hawk, Red-tailed Hawk, Sparrow Hawk, Bobwhite, Ring-necked Pheasant, American Coot, Killdeer, Spotted Sandpiper, Greater Yellowlegs, Mourning Dove, Yellow-billed Cuckoo, Black-billed Cuckoo, Screech Owl, Great Horned Owl, Barred Owl, Chuck-will's-widow, Whip-poor-will, Common Nighthawk, Chimney Swift, Ruby-throated Hummingbird, Belted Kingfisher, Yellow-shafted Flicker, Red-bellied Woodpecker, Red-headed Woodpecker, Hairy Woodpecker, Downy Woodpecker, Eastern Kingbird, Great Crested Flycatcher, Eastern Phoebe, Least Flycatcher, Eastern Wood Pewee, Horned Lark, Tree Swallow, Bank Swallow, Rough-winged Swallow, Barn Swallow, Purple Martin, Blue Jay, Common Crow, Black-capped Chickadee, Tufted Titmouse, White-breasted Nuthatch, House Wren, Mockingbird, Catbird, Brown Thrasher, Robin, Wood Thrush, Swainson's Thrush, Gray-cheeked Thrush, Eastern Bluebird, Blue-gray Gnatcatcher, Cedar Waxwing, Starling, Yellow-throated Vireo, Solitary Vireo, Red-eyed Vireo, Philadelphia Vireo, Warbling Vireo, Black-and-white Warbler, Blue-winged Warbler, Tennessee Warbler, Nashville Warbler, Yellow Warbler, Magnolia Warbler, Myrtle Warbler, Black-throated Green Warbler, Cerulean Warbler, Blackburnian Warbler, Chestnut-sided Warbler, Bay-breasted Warbler, Blackpoll Warbler, Ovenbird, Northern Waterthrush, Mourning Warbler, Yellowthroat, Yellow-breasted Chat, American Redstart, House Sparrow, Bobolink, Eastern Meadowlark, Western Meadowlark, Red-winged Blackbird, Orchard Oriole, Baltimore Oriole, Common Grackle, Brown-headed Cowbird, Scarlet Tanager, Summer Tanager, Cardinal, Rose-breasted Grosbeak, Indigo Bunting, Dickcissel, Pine Siskin, American Goldfinch, Rufous-sided Towhee, Savannah Sparrow, Grasshopper Sparrow, Vesper Sparrow, Lark Sparrow, Chipping Sparrow, Field Sparrow, White-crowned Sparrow, White-throated Sparrow and Song Sparrow.

Letter from the President

Dear I.O.U. Members,

May I take this opportunity to express my gratitude for your giving me the opportunity to serve as president of I.O.U. I shall do my best to continue the tradition of excellence which has been established by those who preceded me and with the help of the officers and the executive council I hope we can keep the organization growing.



My first and only formal training in ornithology was in the form of a series of contests in 5th grade. Each day our row competed with the other rows in flash card recognition and although I can't remember if our row excelled I do know that a lasting interest in bird recognition was created and I am sure my teacher would be pleased to know that I have retained that interest and broadened it.

Pleasant memories and associations have a way of sticking with us and even if forgotten for awhile will someday be revived. What can be more pleasant than a weekend spent meeting old friends, making new friends and enjoying an invigorating early morning hike or two in addition to attending some inspiring programs? Let's share our enthusiasm with others and especially with young people. Make an effort to bring someone with you to our meetings so I.O.U. can continue to grow. I hope I can see you all at the fall meeting with your guests.

Sincerely,

Beryl W. Layton

A Piscator -- Serious and Wise

LUCILE M. ELSON

1149 K Ave. N.W.

CEDAR RAPIDS, IOWA

It was on a Friday afternoon about the middle of May, the fairest day after foul ones, a true 'halcyon day', when our city-bred school ma'am said that we would go for a walk this nice afternoon. (I like to call it a hike now.) Our outdoors was washed clean and sparkling. Most of us had on our shoes due to thorns, sand-burs, and lost fish-hooks; a few of the hardy older boys were barefooted. The young leaves adorned the gray boughs with velvety-soft suede leaves of pinks, fawns, creams, chartreuse, and coral. Indeed, it was a happy day full of expectancy! I was around eight and a half years old, this being my first hike to the prettiest natural spot I have ever seen; 'Iowa, Indian name for Beautiful Land'. I still well remember this very enjoyable tramp through it; although I was afraid to cross the foot log over West Otter Creek at the ford. We came back in all directions with our hands full of periwinkle-blue wood phlox, sweet Williams we called them, and red and yellow honeysuckles over which we saw a Ruby-throated Hummingbird poised sipping their nectar. The latter flowers are also called columbines and rock bells, for they grow on the rocky bluffs just back from the flood plain, leaving it and the virgin woodlands to the wood phloxes. We gave the flowers we had picked to 'Teacher' who had a big bouquet to take back to her city home where she returned for the weekend on the evening train.

Nevertheless, the scenic attraction was the bare backbone weathered limestone cliff, which looked like a mountainous precipice to me that day, with its lone gnarled twisted cedar tree clinging to the nearly perpendicular wall where it had found a little soil in a crevice. Here I was to see my first Belted Kingfisher come out of a burrow in the side not very far from the crooked juniper. The big boys said that it had its nest back in there.

It was one summer during vacation when Dad sent my brother and I to this spot to get crawfish for fish bait for his 'trot-lines', that I again saw a kingfisher who with stern dignity sat poised on a branch overhanging a deep hole in a curve in the creek bank a short distance away. We watched him and vice versa, as we overturned flat stones in the shallow water to find crawfish under them sometimes.

I will describe Belted Kingfishers so you'll know them: -- their heads are large, completely feathered, and crested more or less. Their bills are long, strong, and straight, and much deeper than wide at the base. Their wings are moderate to rather short; the tip of the wings is rather pointed. The tail is from one half to two-thirds as long as the wing and is slightly rounded. The feet are relatively very small; the first toe is much shorter than the inner toe and connected with the second so as to form with it and the others a broad flattened sole, the surface of which is conspicuously granulated. There is only the Belted Kingfisher north of the Rio Grande; so there'll be no confusing. Their length is twelve inches. Color of upper parts and of belt, bluish-gray (stone-blue); under parts white; females with a reddish band across the abdomen. Their nest is at the extreme end of a burrow in the bank, from 4 to 15 feet long. Eggs: -- 5 to 8, white, the better to be seen on the bare floor of the enlarged extremity of the dim tunnel.

"This is one of the pronounced, picturesque personalities of the feathered world -- a handsome sturdy and self-reliant bird who makes his living by the persistent, skillful, and largely harmless practice of an ancient and respected art, fishing."

The charge that the bird is destructive to game fish, especially brook trout cannot be substantiated, and that the bird catches chiefly minnows, chubs, and related shallow-water fish which are pests to the fisherman is proved. And it is known that a very considerable part of his diet is composed of crawfish, frogs, and even injurious beetles and locusts, which he takes when the fishing is bad, because of rough waters, or for other reasons. He is always good company on a trout brook even along Otter Creek. The only noise they make is a rattle. Not infrequently he makes his plunge, like a blue meteor, from a perch fifty feet or more above the water, striking it with an impact which, one would think, would completely knock the wind out of him. It is as daring and graceful a "high dive" as is to be seen anywhere. But think of the vision which must be required to see, at that distance, a fish, often no more than two or three inches long, and generally several inches below the surface!

For the kingfisher, fishing is a serious business; consequently he is not a gregarious bird. He is likely to have pretty definite ideas about his "fishing rights". That is after he has established himself in a certain locality he resents the appearance therein of another kingfisher and he will attack and drive away an intruder if he can. It is hardly fair to consider this sheer selfishness. For him fishing is pretty hard work, demanding both patience and skill; and besides, the supply of fish he can catch is never actually bountiful. So he cannot be blamed for keeping a sharp lookout for trespassers on his preserve.

A beautiful Greek myth about the kingfisher has it that Alcyone, daughter of

Aeolus, king of the winds, grieved so deeply for her husband, who had been shipwrecked, that she threw herself into the sea, and was immediately changed into a kingfisher called Halcyon by the ancient Greeks. "Pliny says, 'Halcyons lay and sit about midwinter when daies be shortest; and the time whiles they are broodie is called the halcyon daies . . . for during that season the sea is calm and navigable.'" (The popular belief was that the seven days preceding the shortest day of the year were used in building the nest, and the seven days following were devoted to hatching the eggs. These fourteen days were called 'Halcyon days'.) Even now the adjective 'halcyon' represents calm and peaceful days devoted to pleasant outings in the woods or fields . . . or to paddling up some quiet river, all the while learning to know the trees and wild flowers, and the songs and forms of birds" -- George Gladden, Managing Editor of *The Birds of America*.

NOTE: -- However, Pliny, a Greek historian, is speaking of the Mediterranean lands, their climate like that of California. Here in Iowa the Belted Kingfisher builds its nest in the spring.

Birding in Arizona

MRS. W. C. DE LONG
1206 Johnson Drive
SHENANDOAH, IOWA

Phainopepla! What a strange name for a bird! Because he has no common name, we will have to call him by his Greek name "phainopepla" which means "shining robe." On March 17, 1969, I was delighted to hold a male Phainopepla in my hand while my friend from Colorado, who has a permit to band birds in Arizona, slipped a band on his leg. He sang for us while he was in my hand. He did not open his beak, but we could see movement in his throat as he trilled and whistled flute-like tones. All the while his red, fiery eyes looked at us in anticipation of release.

We find the Phainopeplas where the desert mistletoe hangs heavy with ripe berries in the palo-verde trees on the desert east of Mesa, Arizona. Several males are usually perched in the top most branches of the trees, dashing back and forth in short, impatient flights, chasing each other in the early morning dawn. Flying upward the male birds reveal white patches on the under-wing feathers. For some unexplainable reason the males outnumber the females. She is a mouse gray, black-crowned bird with little or no white on the wing but still has the fiery vermillion eyes.

I know of no bird in Arizona that captures my admiration like the Phainopepla unless it is the Vermillion Flycatcher. I was told to park my car where the Beeline Highway crosses the Verde River and walk north of the bridge among the mesquite trees if I wanted to see the Vermillion Flycatcher. It was the last day of January that I saw him perched on the outer edge of a leafless mesquite. It was not until March 9 that I saw his mate. Up into the air he ascended in an amazing butterfly-like flutter above the tree tops. His flight song then terminated in a dive back to his perch where his mate was sitting. It was on this date that we held him in our hand to admire his beautiful plumage and slip a band on his leg.

We spent a morning banding birds in Hummingbird Canyon, a name given to the place because of the Costa's Hummingbirds that nest here as early as February. A shrub called "chupparosa" is in bloom all up and down the canyon and the hummingbirds feed on the nectar of the red blossoms. On February 20, 1970, a couple from Virginia were photographing a nest of a Costa's that was in a

palo verde tree. With the aid of a mirror we could see the two white eggs. Ten days later on March 4 the Maricopa Audubon Club of Phoenix had a field trip to Hummingbird Canyon and the female was then feeding the young. The male Costa's, sitting on the top branch of another verde tree guarding the nest from all other hummers, was beautiful with his crown, gorget, and long flaring ruff glittering amethyst-purple in the sun.

It was in this canyon that I saw my first Crissal Thrasher. Palo verde trees form what I like to call a little room with an entrance on both sides. When the sun is bearing down in mid-morning this room is a nice cool place to retreat to. It was on March 10 that I walked into this verdant room and had my first view of two Crissal Thrashers running along a floor of sand. I could see the chestnut under-tail coverts or crissum. A net had been placed at the east end of the entrance and as they took wing, they both flew directly into the net. It was indeed a delight to hold them in the hand.

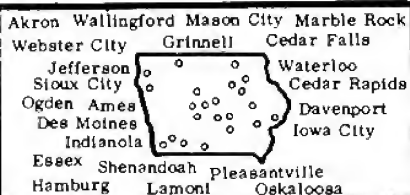
A special study is being made of the LeConte's Thrasher found in a special area near the St. John's Indian School. One only finds them in a desolate area of the desert where salt bushes grow. A member of the Phoenix Audubon Club took us to the area where she is making a nesting survey. With the aid of a tape recorder of the Le Conte's song, she was able to bring the thrashers to the top of the bushes where we could see them and hear them sing. Other thrashers respond to the song played on the recorder, such as the Sage, the Bendire's and the Curved-billed.

We were told the Pyrrhuloxias were seldom found in the mesa area, but we found a place southwest of Chandler along a brushy fence row bordering an Indian reservation where we could always see these beautiful male birds with the stubby bill and combination of gray and reds.

Birding in Arizona would not be complete without mentioning the many sparrows one can see here in winter. The White-crowned Sparrow is an abundant winter resident in the state. Everywhere one goes, one can easily find a flock of these friendly white-crowns and hear their joyous songs. Walking in the desert areas, one often encounters another fine singer, the Brewer's Sparrow. One day I was puzzled by seeing a small bird with his tail held upright like that of a wren run along the sand and dart under a creosote bush. Could this be some species of wren I had never seen before? The next time I saw him he was perched in a bush and I saw the dot in his breast and the stripes on his side. I was having my first view of a Sage Sparrow, a most interesting sparrow indeed! The Black-throated Sparrow is a very common nesting sparrow of the desert and a beautiful bird to behold. Sparrows that only winter in Arizona are the Vesper, the Lincoln, the Lark, Chipping, and Song.

The natives in Arizona call us winter visitors "Snowbirds from the North Country." If you have never visited the state and wish to add more than thirty birds to your life list, become a snowbird and spend a winter in this section of Arizona. Wander around the desert areas of the Valley of the Sun and mingle with the feathered snowbirds from the north, such as the many Juncos, the Audubon Warblers, Ruby-crowned Kinglets, Western Bluebirds, Green-tailed Towhees and the many Lark Buntings. Learn to know the native birds, such as the Black Phoebe, the Black-tailed Gnatcatcher, the Abert's and Brown Towhees, the tiny Verdin and the Rock and Canyon Wrens. And don't forget Arizona's state bird, the friendly Cactus Wren. He will make your acquaintance whether you want to know him or not. There is always the Roadrunner dashing under cover at one's approach. But the champion of all and the most handsome and dignified is the bird with the long decurved, black plume carried at varying angles according to his mood - the Gambel Quail. Don't miss him.

FIELD REPORTS



March and April were cool and dry with some snow early in April, but May brought some warm weather and heavy rains. Numerous tornado warnings were issued in the second week. The migration was generally thought to be late and, for many species, rather poor. Such warbler waves as occurred took place during the stormy period in May. No one commented on any heavy shorebird migration although Dr. and Mrs. Harold Peasley found great numbers in the area of Britt and Union Slough in the third week of May. The most interesting feature of the season has been the extended stay of some of the winter visitants; Red Crossbills and Pine Siskins have continued to frequent feeders well into the latter part of May.

Grebes, Pelicans, Cormorants. Two Western Grebes were reported to have been at Union Slough (fide HP). There were few reports of other than Pied-billed; Horned and Eared seen several times (RM), and 4 Horned seen in April (JR). On 20 April 30 White Pelicans were seen (KV, CH), and a flock of 200 was at Clear Lake on the 24th (PK). A few Cormorants were seen in mid-April (RM); 1 was at Rock Creek Lake on the 15th (MS); and 14 were seen on the 22nd (CFW).

Hérons. A Great Blue Heron appeared on 28 March with the temperature 7 below zero (CFW). They were thought late (JK); slightly up (RM); but scarce (JR); and only a couple seen (FK). Green Herons were not seen until late May (JR); few seen (FK); but in good numbers (RM). Little Blue Herons were seen: on 14 April in adult plumage (JR); 9 May, one in white plumage (HP); and 19 May one was being pursued by a Green Heron (RM). Common Egrets were seen in the Coralville area with 7 on 15 April (LS) and 5 on 15 May (FK). There were four observations at Big Wall Lake (RM). On 18 April one was at Hendrickson's Marsh (JR), and one was seen on the same date, no location given (JK). Black-crowned Night Herons: 30 on 20 April (KV, CH); 9 on 25 April at Goose Lake (RDM); 3 on 10 May (RH, CH); only 1 seen (RM); while small numbers were at Hendrickson's Marsh and Anderson Lake in April (JR). Yellow-crowned Night Herons were observed in the same location on four occasions and suspected to be nesting.

Swans, Geese. Whistling Swans: 4 at Big Marsh, 27 March (KV); 3 at Coralville, 28 March (FK); 10 near Jewell, 2 April (KV, CH, EC); possibly the same flock on 4 April, Little Wall Lake (RM); and again at Little Wall Lake, 10 on 26 April (JR). The goose migration was thought good: they were abundant on 21 March (RZ), while on 10 March there were 4-5000 Canadas at Clear Lake (George Dodd, fide KV). On 21 March, following cold weather in the Dakotas, large flocks, undetected on their northern flight, were flying south (DH). White-fronted were seen in small numbers in a surprising number of locations with six reports in April and May, the latest on 17 May at Conesville (PCP). A late Snow Goose was on Anderson Lake on 24 May (HP).

Ducks. The waterfowl arriving early in March appeared to be held by the unfavorable weather so that later arrivals made for a very large concentration at Conesville later in the month (FK). Pintails were few (RM), as were Green-winged Teal (DH). A male Cinnamon Teal was seen at Bay's Branch on 17 April (PDK). A week later there was a large concentration of Shovelers at Bay's Branch

(RDM). Wood Ducks were scarce (CFW); at least the usual numbers at Des Moines; numerous (PK); and, at least 5 pairs nesting (RM). An estimated 75 Redheads were seen on 15 March (HP), with good numbers in late March (FK). A late Ring-necked was at Anderson Lake on 24 May (HP). Canvasbacks were in good numbers in late March (FK), but none seen (DH). Many Goldeneyes were seen on 15 March (HP). Buffleheads were more than usual in Polk Co. with 35 on 25 April (MEW) and up along the Mississippi (PCP). There were better numbers of Ruddy Ducks this spring (RM). A flock of 20 Hooded Mergansers at Tama on 28 March was reported by Glenn Bloomfield (fide RH). At the same time there were 100-150 Common Mergansers. There were more Red-breasted Mergansers in Polk Co. than in most springs.

Hawks. All of this group were scarce (DG, FK). Turkey Vultures were rare (KL) and none (JK). There were 3 Sharp-shinned on 11 April (RH). Petersen banded 9 between 27 March and 21 April, with Rod banding 20 in one week, and one was seen on 9 May (RM).

A Cooper's Hawk was banded (JR), a Red-shouldered Hawk was seen 28 March at Tama by Glenn Bloomfield (fide RH). There was a good flight of Swainson's (EB) with one seen on 11 May (JK). An eagle, either an immature Bald or a Golden, at Pocahontas on 23 May was seen being chased by a helicopter (RM). A Golden Eagle was near Tama on 28 March (Bloomfield fide RH). Bald Eagles were seen: at Palisades on 18 February (LS); 5 March and 18 March (2) at Conesville (FK); 16 March in Madison Co. and at Forney Lake, and various dates in March and April at Red Rock Lake (PDK); and 31 March (KV). Marsh Hawks were scarce (RM), with 1 on 25 April (RH). A few reports of Ospreys: 28 April at Sweet's Marsh (PDK); 3 May (CH); and seen several times (JR, PK). A Peregrine was seen at Little Wall Lake on 9 May almost simultaneously with the Cooper's Hawk. A Pigeon Hawk was observed on 3 May (CH). Sparrow Hawks were generally thought fewer.

Bobwhites, Pheasants. Bobwhites are plentiful (KL). Pheasants are spotty (KL), and abundant, but heavy rains probably delayed or destroyed first nests (JK).

Shorebirds. All thought the migration very poor. A Black Rail was seen at Goose Lake on 18 May (PDK), and a King Rail at Sweet's Marsh on 10 May (CH). Reports of Common Gallinules are from Twin Lakes with one seen in the third week of May (HP), and one report by Kent (no date). Coots were very numerous. A flock of Semipalmated Plovers seen near Britt was estimated to include at 100 birds. Golden Plover reports, except for one observation at Lamoni on 7 May (DG) were from the northern areas. A Ruddy Turnstone was seen at Union Slough (HP). Woodcock were common at Ames with observations of the courtship flight as late as 1 April (JF). Other sightings: 10 March at Jesup (CH); 25 March at Storm Lake during a heavy snowfall (VC); 6 April in Lucas Co. 5, (PDK); and 29 April on Blackhawk Creek (J. Lauterbach fide RH). The largest numbers of Snipe seen were 12 (MB) and 30 (FK), both on 11 April. Upland Plovers are nesting in several locations (DG). Willet reports: 28 April, Sweet's Marsh, 1, (PDK); 30 April, 3 at Jesup (CH); 7 on 4 May (FK); and 4 near Ankeny early in May (HP). An estimated 300 Pectorals were seen on 4 May, but were gone the following day (FK). An early observation of Dunlin was on 25 April (CH). A dozen Western Sandpipers were seen at Union Slough (HP). Hudsonian Godwits were reported: 4 on 3 April (RM); 4 at Flint Access on 11 May (PDK); 4 on 14 May and 5 on 15 May (JK); and 11 near Britt (HP). A small flock of Avocets was at Brenton's Slough (MBr).

Gulls, Terns. Ring-billed Gulls in the hundreds were seen on 31 March and 2 April (PDK), and 4 April (FK). Scattered observations of Franklin's Gulls (FK, LS, JK), and only a hundred seen in the Sioux City area where they are usually numerous (DH). Caspian Terns appeared in May; 12 on the third (FK) and 75 at Red Rock Lake on the eighth (PDK). Black Terns were in large numbers but not nearly as many as usual (RM), with none seen (EB).

Cuckoos, Owls. Cuckoos were described as scarce or missing, but both species were seen in numbers (RM). Tape-recorded calls are being used to bring in the resident species (JR, JF). A mixed flock of Long-eared and Short-eared was seen at Goose Lake on 8 March (JF). A Long-eared near Ely and 6 or 7 near Mt. Vernon on 19 February (LS). Short-eared reports: 3 on 4 February (LS); 7 on 5 April (KV); a late one on 24 April (JK); and a probably breeding resident on 30 April in Lyon Co. (PDK). Saw-whets were seen: 17 March (KV, CH), and on the late date 17 April (JF).

Goatsuckers, Woodpeckers. The Chuck-will's-widow, which earlier had been banded by the Ayres', has been found nesting in the Ottumwa area. An early Whip-poor-will was seen on 29 April (J. Lauterbach fide RH). Yellow-shafted Flickers were seen in numbers during migration (FK, KL, RH, Jeff K), but were thought not in usual numbers (JK). Red-shafted Flickers are in the southwest: at Hamburg (EG); Essex (BW); and Red Oak (DF). Red-headed were plentiful (KL), but not in usual numbers (JK). Sapsuckers were scarce (KL).

Flycatchers, Swallows. Few Eastern Kingbirds had been seen (KL), but were thought common (JK). Great Crested were more than usual (PK). Only one pair of Say's Phoebes have been located so far (EB). Least Flycatchers seemed more numerous this spring. Olive-sided seemed abundant (JK), but only one was seen (JR). Large numbers of swallows were seen over Fisher's Lake near Des Moines (RDM), and the Coralville Res. (FK) in mid-May. Human interference has caused a decrease in the nesting Bank Swallows (EG). Cliff Swallows have been few (RM). Martins are scarce (KL).

Jays, Chickadees, Nuthatches, Creepers, Wrens. No Blue Jays had been seen up to the end of March (CFW). Chickadees are still scarce (DH), but Titmice are up (RM). Red-breasted Nuthatches stayed until at least 11 May (MEW, PCP). Brown Creepers seemed more numerous (PK). Winter Wrens were reported (Mrs. Osness fide RH, KV, JKB, RM). Carolina Wrens were seen on 25 April (EC, RH), and 5 May (JK), and are evidently nesting (EG).

Mimics, Thrushes. All mimics and thrushes except Robins seem to have decreased (DH). There was a good migration of Hermit, followed by Swainson's and Gray-cheeked (JR). There were more Mockingbird reports than usual: 1 near Chariton on 10 January (CDA); 6 March (KV); 2 in different areas on the Des Moines Spring count (Wm. B. MEW, Mrs. RDM); and Keith Layton had 2 in his yard on 20 May. A pair wintered in southwest Mills Co. (JD). Both Catbirds and Thrashers were more numerous than usual (JK). Most observers thought the Hermit, Swainson's and Gray-cheeked plentiful, and Veeries are reported common at Ledges State Park (JF). Bluebirds which appeared early (EG, FK) were thought down (KL), but as common or up (JK).

Gnatcatchers, Kinglets, Pipits, Shrikes. There were numerous reports of single Blue-gray Gnatcatchers, but 2 to 5 were seen on a number of visits to the Ledges (JR). No Golden-crowned Kinglets were mentioned, but Ruby-crowned were more common (RZ, JK). A Water Pipit was at Cedar Lake on 22 April (LS) and 5 were seen 5 May (DG). Loggerhead Shrikes continue scarce or even absent from the usual nesting places: (KL, EB, JF), but were seen almost daily (RM).

Vireos. The migration was spotty and poor (JK), and a bit thin (FK). They appear to be decreasing (DH) and all are scarce (PCP). White-eyed were seen 3 and 8 May in different areas in Stephens State Forest (PDK). Philadelphias were seen: 2 in Stephens Forest and 2 in Des Moines on 11 May, and 1 was banded in Bettendorf (PCP) with another by Rod.

Warblers. These filtered in slowly in the first week in May, but there were good numbers from the 11th to 15th with 125 species seen on the 11th (FK). The main flight was on 9 May and shortly thereafter (PDK). A good wave on 14 and 15 May (RZ). Best wave 11 to 14 May (PCP). Best movement on 11 and 12 May but not many species (DH). Some other comments: very disappointing migration (PK, RM), and numbers down (JK). Nashvilles were up with 48 banded (KL). Myrtles were very few in comparison with other years and only one was banded by Petersen on 11 May, his big day. At least 15 Ceruleans were found at the Ledges on 21 May (JR). A Pine Warbler was in the Kents' yard on 10 May. Ovenbirds and Northern Waterthrushes are up (KL). A Kentucky on 6 May was the first netted at Pine Hill Cemetery (PCP). The Yellow-throated Warbler, which appeared last year after a long absence, has returned. A pair has been at the Ledges from Early May to the 25th (JR); they were seen in Stephens State Forest on the 2nd, 3rd, and 7th, and in Des Moines on the 4th (WmB). Mournings were numerous (GdeL, RZ) but apparently nowhere else. The rare Hooded was seen in Ashworth Park, Des Moines, on 3 and 4 May (MEW, MBr). Since this find was publicized others have been reported from Ellsworth and Indianola. Yellowthroats are the most ever seen with 77 banded (KL). Yellow-breasted Chats are reported (PK, KL, PCP). Redstarts, thought scarce (KL), were considered numerous (JB, GdeL, RZ).

Icterids, Tanagers. A large movement of mixed blackbirds took place on 9 March with thousands going southeast (EG). Bobolinks are nesting at Shenandoah which is farther south than they are usually found (RZ). They are more numerous than in other years (PK). Red-winged Blackbirds are increasing (DH). Baltimore Orioles were thought down (KL), but common elsewhere. A second-year male Orchard Oriole was seen on 7 May (JR). Rusty Blackbirds were numerous (BW), but Brewer's were few (RZ). Grackles continue to increase and have been killing and eating nestlings of other species (DH). Scarlet Tanagers are resident in Stephens Forest (PDK) and an early migrant was at Davenport on 22 April banded (PCP). A summer Tanager female has returned to a feeder; usually the male comes first (CG).

Finches. The sparrow migration was generally thought poor. Rose-breasted Grosbeaks, considered scarce (CFW), were thought more than usual (PK). Indigo Buntings, up according to some, were late and few in numbers in Des Moines. Pine Siskins, which staged an invasion, were still coming to feeders in all areas past the middle of May. Perhaps the largest numbers were at the Peasleys' where the flock was conservatively estimated as being well over 100. A flock of Goldfinches in Sioux City on 6 May was estimated by the Davisons to number over 2000 (DH). Red Crossbills, like the Pine Siskins, were widely distributed and remained late. There were 41 banded at one feeder (JF). A Towhee of the western race was seen on 11 April (GdeL, RZ). A male Lark Bunting was seen on 14 May (EB) and another on March 28 by Bliese, see longer note. Grasshopper Sparrows were numerous but Lark Sparrows scarce (KL). There are no records of the White-winged Junco in Iowa but Jim Keenan makes a good case for one of this species. An early Field Sparrow appeared on 8 March (RH). Harris' were numerous to 17 May (BW), but few if any were seen in Des Moines. White-crowned were conspicuously few (JR). Fox Sparrows were few (KL, RZ) with none in Des Moines. Swamp Sparrows were also few (RZ).

Notes on the summer season for the September issue should be in not later than 20 September.

Observers: C. D. Ankney, Ames; Wm. Boller, Des Moines; Mrs. Jean Broley, Shenandoah; Mrs. Margaret Brooke, Des Moines; Mrs. J. K. Brown, Des Moines; Eldon Bryant, Akron; Myrle Burk, Waterloo; Eleanor Corwin, Cedar Falls; Mrs. Virginia Crocker, Storm Lake; Mrs. Joan Dashner, Pacific Jct.; Mrs. Genevieve DeLong, Shenandoah; John Faaborg, Ames; Mrs. Dorothy Franek, Red Oak; Mrs. Edw. Getscher, Hamburg; Donald Gillaspey, Lamoni; Mrs. Catherine Griffith, Des Moines; Mrs. Darrell Hanna, Sioux City; R. M. Hays, Waterloo; Mrs. Clarice Hewitt, Jesup; Jim Keenan, Ogden; Fred W. Kent, Iowa City; Jeff Kern, Des Moines; Paul D. Kline, Indianola; Miss Pearl Knoop, Marble Rock; Keith Layton, Oskaloosa; Ron Muilenburg, Webster City; R. D. Mooney, Des Moines; Peter C. Petersen, Davenport; Jim Rod, Ames; Miss Lillian Serbousek, Cedar Rapids; Miss Mildred Stewart, Grinnell; Mrs. K. A. Velie, Cedar Falls; Mrs. Betty Walters, Essex; Miss Mary Ellen Warters, Des Moines; C. F. Wolden, Wallingford; Mrs. Ruth Zollars, Shenandoah. Woodward H. Brown, 4815 Ingersoll Ave., Des Moines, Iowa 50312.

GENERAL NOTES



Canada Geese Nest in Kossuth County -- Several Canada Geese (*Branta canadensis*) stop every year during April at a 7-acre gravel pit (SW¹/₄, Sec 23, (T95N, R27W) near Wesley, Kossuth County, in north central Iowa. These geese generally interrupt their spring migration by spending about 4 days in the area. The pit contains about 4 acres of open water surrounded on three sides by small cottonwood (*Populus deltoides*) trees and on the fourth side by a thick cattail (*Typha latifolia*) marsh.

In 1969, a pair of Canada Geese remained and nested at the gravel pit. One of the geese appeared to be injured and had difficulty taking flight. It was capable of flying only a short distance. Four goslings were observed following the parents on the water in early May. Three of the four young survived to flight stage. In late July, the young geese were observed flying and feeding with the adults. The goose family apparently left the area about the third week of September.

William Basler, State Conservation Officer, also observed the geese. He said that this was the only recent record of nesting Canada Geese in Kossuth County. However, Robert Stratton, Refuge Manager, stated that according to records in refuge files a pair of Canada Geese apparently nested at Union Slough National Wildlife Refuge in the mid-1950's. Union Slough is approximately 15 miles NNW of the gravel pit where the geese nested in 1969. A captive flock of Canada Geese has nested for several years about 45 miles WNW at the State Conservation Commission's Ingham-High Game Management Unit in Emmett County near Wallingford. -- PAUL E. NELSON, Wesley.

One Day Eagle County February 21 or 22, 1970 -- Most of the Mississippi River from its source to below St. Louis as well as most of the Illinois River was covered, Kentucky was covered by the Kentucky Ornithological Society. The St. Louis Audubon Society area was covered by 125 people in several parties. The area from Lock & Dam 12 at Bellevue, Iowa to Keokuk was covered by car and plane. A detailed comparison was made. Dr. DeDecker was the pilot with Pête Petersen and Jim Rod the counters. The Illinois River data was handled by Dr. L. H. Princen. Many areas were covered by sizable groups of people. Fish and wildlife Service people, game management people, lock masters and bird watchers all took part.

Location	Adults	Immatures	Not Aged	Total
Lock & Dam 3 to Quincy	333	53	5	391
St. Louis, Mo. side	126	62	13	201
St. Louis, Ill. side	9	13	0	22
St. Louis, Ill. River from Grafton to Hardin	34	42	13	89
Below St. Louis	3	5	0	8
Illinois River	16	30	0	46
River totals	521	205	31	757
percentage	(71.76)	(28.24)		
Crab Orchard Refuge	0	2	0	2
Kentucky	22	47	1	70
Totals	543	254	32	829
percentage	(68.13)	(31.87)		
One report received from Nebraska	15	9	1	25
Adult Golden Eagles were found at Keithsburg, Chandlerville on the Illinois River and 1 in Kentucky.				
Three year comparison; Kentucky omitted				
1968	totals	444	177	
	percentage	(71.75)	(28.5)	
1969	totals	497	260	
	percentage	(65.65)	(34.35)	
1970	totals	521	205	
	percentage	(71.76)	(28.24)	

The high percentage in 1969 is thought to be because of the complete freezing of the Missouri River which has always had more immatures than the Mississippi. The undersigned would like to do a more complete survey of the Missouri and Ohio Rivers as well as other areas if funds could become available. -- ELTON FAWKS, 2311 5th Ave., Moline, Illinois.

Lark Bunting Observations -- While driving on Highway U.S. 34 in western Iowa one summer morning in 1969, my wife and I had our conversation interrupted momentarily when we saw a Lark Bunting (*Calamospiza melanocephala*) near the

highway, some distance west of Creston. A fraction of a mile farther we saw a second one. We were both surprised, and commented that these birds seemed to be rather far east. Too engrossed in our former discussion, we neglected to take any notes, and forgot about the incident until months later.

Fortunately we were to be privileged another view of the species in Iowa, on March 28, 1970, when we were again traveling the same route. About 10:00 a.m. we saw the bird flying near a fence bordering the highway, the great amount of white in the wings being unmistakable. This time we were alert, ornithologically speaking, and immediately recorded its location. The place was about 14 miles southwest of Creston, or about one mile east of the junction of U.S. 34 and Iowa 186, in Adams County.

The Lark Bunting has been seen by others in Iowa, but apparently it is rather rare in the state. In Nebraska, our home state, its status is given in the **Revised Check-list of Nebraska Birds** by Wm. F. Rapp, et al. (1958) as follows: "A common migrant and summer resident in the western half of the state, occurring in small numbers in suitable areas as far east as Lincoln". Our observations in Iowa, of course, were well over a hundred miles east of Lincoln. We have seen the species many times "in suitable areas" not far from our home in south central Nebraska.

We are wondering if the date of observation might not be as unusual as the observation itself. Common arrival dates in Nebraska are May or early June, although at least one record as early as April 7 is given in an article, "1965 (Fortieth) Spring Migration and Occurrence Report", **Nebraska Bird Review** 33(4):54-65, 1965. -- JOHN C. W. BLIESE, Kearney State College, Kearney, Nebraska.

Complete Protection For Iowa Hawks and Owls. -- I have heard it since being stationed in Iowa that all hawks and owls should be protected. It was passed as resolutions by both the Izaak Walton League and the Wildlife Federation at state conventions. It was recorded by resolution by the Wildlife Society. It was favored and publicized by Audubon and others. But, **nothing was done** to get the job done. I had a personal reason for wanting all hawks and owls protected on top of the two most important reasons of 1. they are beneficial birds, 2. they are not too numerous in Iowa. I went to Ken Kakac, Supt. of Enforcement Officers of the Iowa Conservation Commission and was assured that the Commission wanted all hawks and owls protected in Iowa. My reason was simply that if it fitted into the Commission's program as far as wildlife management in Iowa was concerned I wanted to take the last excuse away from the "Eagle shooters" who usually end up by saying, "I thought it was one of those unprotected hawks or owls." So, I wrote up the message, listed the reasons and gave the information to Mr. William Reichardt, the State Senator from Des Moines, who took it to the Conservation Committee of the Iowa legislature and the rest is history. The new law will go into effect July 1, 1970 . . . so now you know . . . WESLEY NEWCOMB, 690 40th St., Des Moines (Where was the I.O.U? -- ed.).

The Yellow-rumped Warbler -- On April 22, 1970, Mrs. E. C. Zollars and I were banding Myrtle Warblers and Ruby-crowned Kinglets at Manti, a county park near Shenandoah, Iowa. One warbler had us puzzled, a yellow-rumped warbler with a yellow throat in place of white.

This warbler had much more white in the tail than the Myrtles we were banding. There were four tail feathers with much white and even a fifth had some white. The wing had more white than the Myrtle but not as much white as a male Audubon should have; however, in the book **Field Guide to Western Birds** by Peterson it states - "The female Audubon Warbler in the spring is similar to the male except for the wing patch which has two white wing bars." The one

characteristic that kept us from identifying it as a real Audubon was the white stripe over the eye as one finds in the Myrtles rather than the Audubons. We brought the bird into town and had the help of Mrs. Francis Braley and Mrs. Robert Bordner in coming to the conclusion that our warbler was an Audubon hybrid.

In the book *The Warblers of North America* by Ludlow Griscom on page 130 it states - "The outstanding field mark of the Audubon Warbler is its yellow throat, the only species possible to confuse with it being the Myrtle which lacks this character. The fall and immature plumages of the Audubon's show much more white in the tail than the Myrtle - (4 or 5) areas against (2 or 3) in the Myrtle. But the yellow rump patch is conspicuous in both species." Dr. Bailey in *The Birds of Colorado* states that there are specimens in the Denver Museum indicating hybridism. Perhaps the day will come when these two species will be considered only species and will be called the Yellow-rumped Warbler with an eastern and western race, much as we now call the Rufous-sided Towhees. -- MRS. W. C. DE LONG, 1206 Johnson Dr., Shenandoah.

A Winter Visitor -- Since we have almost no natural shelter here (at the big old farmhouse we're renting), we've had to make our own with snow fence stretched between two lilac bushes, hay, burlap bags, discarded Christmas trees, etc. Attracting birds has been a slow process, but with the extremely cold weather and the deep snow, the House Sparrows have led the way for Tree Sparrows, Field Sparrows, Juncos, Cardinals, Blue Jays, Meadowlarks, Horned Larks, Pheasants and Quail.

On January 22, with the wind out of the south at 25 mph and the temperature at 15 degrees, the feeding station on the north side of our house was a popular place. The lilac bushes and the ground had been alive with birds all morning long. About 11:00 it started to snow, and as I went past the window I glanced out to see what was there. Nothing! Not a bird in sight. I was afraid one of the "barn" cats had come to investigate all the activity, but closer inspection revealed no cat either. Then I noticed some movement down low in the lilac bush. I picked up my binoculars -- and could hardly believe what I was seeing.

A Loggerhead Shrike had caught one of the Tree Sparrows and was hard at work trying to wedge it in the fork of a branch. The shrike had to struggle several minutes before it got the body placed securely enough, then started pulling off feathers. The first reaction, quite frankly, was one of horror, followed by the realization that this was "real life" that we were seeing, and that the shrike had as much right to eat and live as did the sparrow. But Mother and I were upset because we had attracted the smaller birds and had made them "sitting ducks".

The shrike managed to pull off one of the sparrow's legs and flew to a pine about 100 yards away. Mother wondered if it would accept anything other than its own freshly caught meal. We decided to try. In the refrigerator we had some raw beef kidney. After "tenderizing" it by cross-hatching with a knife, Mother took the kidney out and impaled chunks of it on lilac twigs. The shrike soon returned. It went first to the dead sparrow, then spotted the kidney, went to it, and began tearing off bits of meat. Eventually it flew away. We haven't seen the shrike today (January 23). Will it return? We watch with mixed emotions. -- KATHY FISHER, Rt. 2, Keota.

A row of books with stylized owl and bird illustrations. The books are titled: "GUIDE TO THE", "A GUIDE TO THE", "ATTRACTIVE", "THE", "THE", "THE", "THE", "THE", "THE", "THE". The owl is on the left and the bird is on the right.

A beautiful book which presents twenty-five of the most beautiful and well known of Australian birds. The birds illustrated are all land species and represent a good cross section. Opposite each plate is a page of text briefly covering the life history of the species. The birds are pictured against a tan background, an in-

interesting deviation from the standard in this Japanese printed volume. The printing quality and paper standard are of the finest seen in recent years by this reviewer. Although the book illustrates only about five percent of the native species it does give one a good "feel" for the bird life of the continent. Mr. Cooper rates very well against the finest American artists and any lover of excellent bird art will want this fine sample of his work. ed.

Request for Shorebird reports of marked birds -- During the autumn migration of 1970 we hope to band and colour-mark several hundred Semipalmated Sandpipers and Sanderling at Long Point. Information on the movement of these sandpipers is essential to research presently underway on the energy requirements of their migration. We would greatly appreciate it if anyone sighting these birds would report their observations to Dr. A. Salvadori, Department of Mathematics and Statistics, University of Guelph, Guelph, Ontario.

The following information would be appreciated: species, location (including nearest city or town), dates, colour (note - birds will be coloured on the breast or abdomen with a single colour, either pink, orange, blue, green, yellow or purple), leg that has been banded -- this will tell if the bird is an adult or an immature.

Any information on what other birds are with the marked individuals would be very useful. Thank you.

NEW MEMBERS



New members through June 1, 1970

Mrs. Alice Anderson (C), 806 S. Jefferson, Mt. Pleasant 52641

Brigit Barnes (J), 102 Bel Aire Rd., Ankeny 50021

Mrs. Frances Dashner, R. R. 1, Pacific Jct. 51561

Mrs. Stanley Engle, Box 409, Glenwood 51534

Phillip Frazier, 3100 37th St., Rock Island, Ill. 61201

Clifford Glasgow, 619 Forest Blvd., Marshalltown 50158

Mrs. Ray W. Hester, 502 Morningside, Ida Grove 51445

Mrs. Robert Honig, Rt. 3, Glenwood 51534

Kathryn Iverson (S), Box 153, Paullina 51046

Alberta W. Lambeth, 408 Quincy St., Ottumwa 52501

Beryl Layton, 1560 Linmar Dr. N.E., Cedar Rapids 52402

Mark Miksch (J), Rt. 1, Washington 52353

Wesley Newcomb (from 1969), 627 Federal Bldg., Des Moines 50309

B. June Parks, RR 3, Glenwood 51534

Jackie G. Steele, 7 Shore Acres Court, Sioux City 51109

Jerry Wetteland, 1114 3rd St., Boone 50036

Subscriptions:

Ekstrand Elementary School, 1140 15th St., DeWitt 52742

Grand Mound Elem. School Library, Grand Mound 52751

Serials Dept., Illinois State U. Library, Normal, Illinois 61761

Low Moor Elem. School Library, Low Moor 52757

Welton Elem. School Library, Welton 52774